PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

BUREAU D.A. CASALONGA & JOSSE
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ALLEMAGNE

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing *(day/month/year)*	27.03.2009
Applicant's or agent's file reference	**IMPORTANT NOTIFICATION**
MUB08-4968QT	

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2008/051346	17.01.2008	19.01.2007

Applicant
Flexuspine, Inc.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:	Authorized Officer
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Saad, Tanya Tel. +49 89 2399-7457

Form PCT/IPEA/416 (January 2004)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MUB08-4968QT	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/US2008/051346	International filing date *(day/month/year)* 17.01.2008	Priority date *(day/month/year)* 19.01.2007
International Patent Classification (IPC) or national classification and IPC INV. A61F2/44		
Applicant Flexuspine, Inc.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 10 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 12 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☒	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☒	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☒	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
2008-12-09	27.03.2009
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Authorized officer Buchmann, Gerhard Telephone No. +49 89 2399-2288

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US2008/051346

Box No. I Basis of the report

1. With regard to the **language**, this report is based on

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3(a) and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4(a))
   - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

   Description, Pages

   1-39 as originally filed

   Claims, Numbers

   1-105 received on 09.12.2008 with letter of 09.12.2008

   Drawings, Sheets

   1/22-22/22 as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

5. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 70.2 (e)).

6. ☐ Supplementary international search report(s) from Authority(ies) have been received and taken into account in drawing up this report (Rule 45bis.8(b) and (c)).

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 10-104

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination *(specify)*:

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed *(specify)*.

☒ no international search report has been established for the said claims Nos. 10-104

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13*ter*.1(a) or (b) and 13*ter*.2.

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation to restrict or pay additional fees, the applicant has, within the applicable time limit:

   ☐ restricted the claims..

   ☐ paid additional fees.

   ☐ paid additional fees under protest and, where applicable, the protest fee.

   ☐ paid additional fees under protest but the applicable protest fee was not paid.

   ☒ neither restricted the claims nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:

   ☐ complied with.

   ☒ not complied with for the following reasons:

   see separate sheet

4. Consequently, this report has been established in respect of the following parts of the international application:

   ☐ all parts.

   ☒ the parts relating to claims Nos. 1-9 .

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	5,8
	No:	Claims	1-4,6,7,9
Inventive step (IS)	Yes:	Claims	-
	No:	Claims	1-9
Industrial applicability (IA)	Yes:	Claims	1-9
	No:	Claims	-

2. Citations and explanations (Rule 70.7):

   see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item III.

Surgical Methods

Claims 65-90 and 104 of the present application define methods of stabilizing vertebrae, comprising the step of inserting a dynamic interbody device. This represents a method for surgical treatment of the human body in the sense of Rule 67.1 (iv) PCT. Therefore, no examination is carried out for this claim/these claims according to Art. 34 (4)(a)(I) PCT.

Amendments not Taken into Consideration

The amendments filed with the letter dated 09.12.2008 resulted in a claim 1 which actually defines the invention defined in original claim 26 (see remark below). Original claim 26, however, had been indicated as being not unitary with original claim 1 (see below) and no search report has been issued for original claim 26.
Therefore, the amended claim 1 defines subject-matter which had not been searched and no examination is carried out for this claim, according to Rule 66.1(e) PCT.
Hence, the following report is based on the originally filed set of claims.

Remark:
Present claim 1 defines the same inventive concept as original claim 26 for the following reasons:
The definition of the two claims differs only in that claim 1 defines an engagement portion **suitable for** engagement with a second interbody device. Claim 26 **includes** the second interbody device itself.
Both claims therefore define the concept of two connected interbody devices.

Re Item IV.

The separate inventions/groups of inventions are:

1. Claims 1-9: An intervertebral device comprising two members being movable with respect to each other, allowing coupled lateral bending and axial rotation.
2. Claims 10-17: An intervertebral device comprising two members having guide surfaces and being movable with respect to each other, allowing

lateral bending.

3. Claims 18-25: An intervertebral device comprising two members having guide surfaces and being movable with respect to each other, allowing axial rotation.

4. Claims 26-30: An intervertebral device comprising two pairs of members being movable with respect to each other, allowing coupled lateral bending and axial rotation.

5. Claims 31-38: An intervertebral device comprising two coupled pairs of members having guide surfaces and being movable with respect to each other, allowing lateral bending.

6. Claims 39-46: An intervertebral device comprising two coupled pairs of members having guide surfaces and being movable with respect to each other, allowing axial rotation.

7. Claims 47-52: An intervertebral device comprising two members being movable with respect to each other, the first member having a larger width than the second member.

8. Claims 53-64: An intervertebral device comprising three members being movable with respect to each other, allowing coupled axial rotation and lateral bending between the first and second member, and allowing flexion/extension between the second and the third member, the first member having a larger width than the second member.

9. Claims 91-102: An intervertebral device comprising two members being movable with respect to each other by interacting grooves and ridges, so that axial rotation causes lateral bending or vice versa.

10. Claim 103: A combination of a dynamic posterior stabilization system and a dynamic interbody device.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

The features which are common to the inventions 1-10 are:
An intervertebral device comprising two members being movable with respect to each other.
These common features, however, are well known to a person skilled in the art.

The inventions 1-10 provide, in different combinations, for the following features making a contribution over the prior art:

1. The two members allowing coupled lateral bending and axial rotation.
2. The two members allowing lateral bending.
3. The two members allowing axial rotation.
4. The two members being combined with a second pair of members.
5. The two members being coupled to a second pair of members.
6. The first member having a larger width than the second member.
7. The two members being combined with a third, intermediate, member.
8. The two members having grooves and ridges, interacting so that axial motion causes lateral bending or vice versa.

The different special technical features solve the following different problems:

1. To provide an intervertebral implant which mimics the natural motion between the vertebrae.
2. To provide an intervertebral implant which allows for lateral bending of the spinal column.
3. To provide an intervertebral implant which allows for axial rotation of the spinal column.
4. To provide an intervertebral implant which has a lower profile during the implantation procedure.
5. To inhibit migration of the implants.
6. To inhibit subsidence as far as possible.
7. To provide an intervertebral implant which has an improved geometry of possible motions.
8. To provide an intervertebral implant which mimics the motion restriction normally provided by the facet joints.

Each pair of the above inventions differs in at least one of the special technical features 1-8.

Hence, the above 10 inventions have neither common features making a contribution over the prior art, nor corresponding features which would solve the same problem.

Therefore the above 10 inventions are not linked by a single inventive concept in the sense of Rule 13 PCT.

Re Item V.

1 Reference is made to the following document:

D1 : WO 2006/116851 A (KINETIC SPINE TECHNOLOGIES INC [CA]; DUPLESSIS STEPHAN J [CA]; SEKHON) 9 November 2006 (2006-11-09)

D2: WO 2004/019828 A (MATHYS MEDIZINALTECHNIK AG [CH]; BAUMGARTNER DANIEL [CH]; BURRI ADRIAN) 11 March 2004 (2004-03-11)

D3: WO 2006/066198 A (SAVAGE BIOMECHANICS INC O [US]; PAXSON ROBERT D [US]; NILSSON CARL M [) 22 June 2006 (2006-06-22)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parentheses applying to this document):
A dynamic intervertebral disc comprising a first member (12) and a second member (14) being movable with respect to each other to allow coupled lateral bending and axial rotation of the vertebrae (para. 0009).

Therefore, the subject-matter of claim 1 is already known from document D1.
Also documents D2 and D3 disclose all features defined in claim 1.

3 DEPENDENT CLAIMS 2-9

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

See the documents cited in the international search report and the corresponding passages.

Re Item VII.

The independent claim is not written in the two part form (Rule 6.3(b) PCT), which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

The features of the claims are not provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 6.2(b) PCT). This applies to both the preamble and characterising portion (see the PCT Guidelines 5.05).

The documents D1-D3 are not identified in the description and the relevant background art disclosed therein is not discussed (Rule 5.1(a)(ii) PCT).

The passage on page 39, lines 15-16 renders the application unclear with respect to the intended scope of protection (PCT Guidelines 5.30).

SUBSTITUTE Pages

WHAT IS CLAIMED IS:

1. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first dynamic interbody device, comprising:

a first member, and

a second member coupled to the first member, wherein the first member moves relative to the second member to accommodate coupled lateral bending and axial rotation of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra, and wherein at least one of the first member and the second member comprises an engagement portion configured to engage a complementary engagement portion of a second dynamic interbody device.

2. The stabilization system of claim 1, further comprising a third member coupled to the second member, wherein the third member allows for flexion of the first vertebra relative to the second vertebra when the first dynamic interbody device is positioned between the first vertebra and the second vertebra.

3. The stabilization system of claim 1, further comprising a third member coupled to the second member, wherein the third member allows for extension of the first vertebra relative to the second vertebra when the first dynamic interbody device is positioned between the first vertebra and the second vertebra.

4. The stabilization system of claim 1, wherein the first dynamic interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using an anterior approach.

5. The stabilization system of claim 1, wherein the dynamic first interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using a posterior approach.

6. The stabilization system of claim 1, wherein the first member comprises at least one undercut surface configured to engage at least one undercut surface of the second member.

7. The stabilization system of claim 1, wherein the first member comprises at least one ridge and at least one groove configured to complement at least one groove and one ridge of the second member.

8. The stabilization system of claim 1, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

9. The stabilization system of claim 1, wherein the first member comprises a keel.

10. The stabilization system of claim 1, further comprising the second dynamic interbody device comprising a first member and a second member, wherein the second member is configured to move relative to the first member to accommodate axial rotation and lateral bending of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra.

11. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first member having at least one guide surface;

SUBSTITUTE Pages

a second member having at least one guide surface configured to interact with the guide surface of the first member; and

wherein interaction of a guide surface of the first member with a guide surface of the second member allows for axial rotation or lateral bending of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra, and wherein the first member and the second member comprise a dynamic interbody device.

12. The stabilization system of claim 11, wherein interaction of the guide surface of the first member with the guide surface of the second member resists at least a portion of a shear load applied by the first vertebra and the second vertebra to the dynamic interbody device when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

13. The stabilization system of claim 11, further comprising a third member coupled to the second member, wherein the third member is configured to allow flexion of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

14. The stabilization system of claim 11, further comprising a third member coupled to the second member, wherein the third member is configured to allow extension of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

15. The stabilization system of claim 11, wherein the dynamic interbody device is configured to be inserted between the first vertebra and the second vertebra using a posterior approach.

16. The stabilization system of claim 11, wherein the dynamic interbody device is configured to be inserted between the first vertebra and the second vertebra using an anterior approach.

17. The stabilization system of claim 11, wherein interaction of the guide surface of the first member with the guide surface of the second member allows for coupled axial rotation and lateral bending of the first vertebra and the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

18. The stabilization system of claim 11, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

19. The stabilization system of claim 11, wherein at least one guide surface of the first member of the first dynamic interbody device is an undercut surface.

20. The stabilization system of claim 11, wherein at least one guide surface of the second member of the first dynamic interbody device is an undercut surface.

21. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first member having at least one guide surface;

a second member having at least one guide surface configured to interact with the guide surface of the first member; and

wherein interaction of a guide surface of the first member with a guide surface of the second

member allows for axial rotation of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra, and wherein the first member and the second member comprise a dynamic interbody device.

22. The stabilization system of claim 21, wherein interaction of the guide surface of the first member with the guide surface of the second member resists at least a portion of a shear load applied by the first vertebra and the second vertebra to the dynamic interbody device when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

23. The stabilization system of claim 21, further comprising a third member coupled to the second member, wherein the third member is configured to allow flexion of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

24. The stabilization system of claim 21, further comprising a third member coupled to the second member, wherein the third member is configured to allow extension of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

25. The stabilization system of claim 21, wherein the dynamic interbody device is configured to be inserted between the first vertebra and the second vertebra using a posterior approach.

26. The stabilization system of claim 21, wherein the dynamic interbody device is configured to be inserted between the first vertebra and the second vertebra using an anterior approach.

27. The stabilization system of claim 21, wherein interaction of the guide surface of the first member with the guide surface of the second member allows for coupled axial rotation and lateral bending of the first vertebra and the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

28. The stabilization system of claim 21, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

29. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first dynamic interbody device comprising a first member and a second member, wherein the second member is configured to move relative to the first member to accommodate coupled lateral bending and axial rotation of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra; and

a second dynamic interbody device comprising a first member and a second member, wherein the second member is configured to move relative to the first member to accommodate axial rotation and lateral bending of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra.

30. The stabilization system of claim 29, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

31. The stabilization system of claim 29, wherein the first dynamic interbody device comprises a

portion configured to couple the first dynamic interbody device to the second dynamic interbody device, and wherein the second dynamic interbody device comprises a portion configured to couple the second dynamic interbody device to the first dynamic interbody device.

32. The stabilization system of claim 29, wherein the first dynamic interbody device comprises a third member configured to move relative to the first member and second member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

33. The stabilization system of claim 29, wherein the first member of the first dynamic interbody device comprises at least one undercut surface configured to engage an undercut surface of the second member of the first dynamic interbody device.

34. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first dynamic interbody device comprising:

a first member having at least one guide surface;

a second member having at least one guide surface configured to interact with the guide surface of the first member; and

wherein interaction of a guide surface of the first member with a guide surface of the second member allows the second member to move relative to the first member to accommodate lateral bending of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra;

a second dynamic interbody device comprising a first member and a second member, wherein the second member is configured to move relative to the first member to accommodate lateral bending of the first vertebra relative to the second vertebra; and

wherein the first dynamic interbody device includes a portion configured to mate to a portion of the second dynamic interbody device so that the second member of the first dynamic interbody device moves in tandem with the second member of the second dynamic interbody device when the portion of the first dynamic interbody device is connected to the portion of the second dynamic interbody device.

35. The stabilization system of claim 34, wherein movement of the second member of the first dynamic interbody device relative to the first member of the first dynamic interbody device causes coupled lateral bending and axial rotation of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra.

36. The stabilization system of claim 34, wherein the first dynamic interbody device comprises a third member configured to move relative to the first member and second member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

37. The stabilization system of claim 34, wherein the second dynamic interbody device comprises a third member configured to move relative to the first member and second member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

38. The stabilization system of claim 34, wherein the second member of the first dynamic interbody device comprises a recessed surface configured to allow a portion of the second member of the first

dynamic interbody device to extend over a portion of the first member of the second dynamic interbody device without contact when the first dynamic interbody device and the second dynamic interbody device are positioned between the first vertebra and the second vertebra.

39. The stabilization system of claim 34, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

40. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first dynamic interbody device comprising:

a first member having at least one guide surface;

a second member having at least one guide surface configured to interact with the guide surface of the first member; and

wherein interaction of a guide surface of the first member with a guide surface of the second member allows the second member to move relative to the first member to accommodate axial rotation of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra;

a second dynamic interbody device comprising a first member and a second member, wherein the second member is configured to move relative to the first member to accommodate axial rotation of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra; and

wherein the first dynamic interbody device includes a portion configured to mate to a portion of the second dynamic interbody device so that the second member of the first dynamic interbody device moves in tandem with the second member of the second dynamic interbody device when the portion of the first dynamic interbody device is connected to the portion of the second dynamic interbody device.

41. The stabilization system of claim 40, wherein movement of the second member of the first dynamic interbody device relative to the first member of the first dynamic interbody device causes coupled lateral bending and axial rotation of the first vertebra relative to the second vertebra when the first member and second member are positioned between the first vertebra and the second vertebra.

42. The stabilization system of claim 40, wherein the first dynamic interbody device comprises a third member configured to move relative to the first member and second member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

43. The stabilization system of claim 40, wherein the second dynamic interbody device comprises a third member configured to move relative to the first member and second member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

44. The stabilization system of claim 40, wherein at least one guide surface of the first member of the first dynamic interbody device is an undercut surface.

45. The stabilization system of claim 40, wherein at least one guide surface of the second member of the first dynamic interbody device is an undercut surface.

46. The stabilization system of claim 40, wherein the second member of the first dynamic interbody

device comprises a recessed surface configured to allow a portion of the second member of the first dynamic interbody device to extend over a portion of the first member of the second dynamic interbody device without contact when the first dynamic interbody device and the second dynamic interbody device are positioned between the first vertebra and the second vertebra.

47. The stabilization system of claim 40, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

48. A dynamic interbody device configured to be positioned between a first vertebra and a second vertebra of a human spine, comprising:

a first member configured to couple to the first vertebra, the first member having an inferior surface configured to contact the first vertebra and a width;

a second member configured to couple to an upper vertebra of a pair of vertebra, the second member having a superior surface configured to contact the second vertebra and a width;

wherein the first member is coupled to the second member to allow for motion of the first member relative to the second member to accommodate motion of the first vertebra relative to the second vertebra when the first member and the second member are coupled to the first vertebra and second vertebra; and

wherein the width of the first member is larger than the width of the second member.

49. The dynamic interbody device of claim 48, wherein the first member is coupled to the second member so that axial rotation of the second member relative to the first member causes coupled lateral bending.

50. The dynamic interbody device of claim 48, wherein the first member is coupled to the second member so that lateral bending of the second member relative to the first member causes coupled axial rotation.

51. The dynamic interbody device of claim 48, further comprising a third member positioned between the first member and the second member, where the second member moves relative to the third member to accommodate flexion/extension of the first vertebra relative to the second vertebra.

52. The dynamic interbody device of claim 48, further comprising a third member positioned between the first member and the second member, where the second member moves relative to the first member to accommodate lateral bending of the first vertebra relative to the second vertebra.

53. The dynamic interbody device of claim 48, further comprising a third member positioned between the first member and the second member, where the second member moves relative to the first member to accommodate axial rotation of the first vertebra relative to the second vertebra.

54. A dynamic interbody device configured to be positioned between a first vertebra and a second vertebra of a human spine, comprising:

a first member configured to couple to the first vertebra, the first member having an inferior surface configured to contact the first vertebra;

a second member coupled to the first member, wherein the second member is configured to move

relative to the first member to allow for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra;

a third member coupled to the second member, the third member having a superior surface configured to contact the second vertebra, and wherein the third member is configured to move relative to the second member to accommodate flexion of the first vertebra relative to the second vertebra when the first member and the third member are coupled to the first vertebra and second vertebra;

and wherein the width of the first member is larger than the width of the third member.

55. The dynamic interbody device of claim 54, wherein the first member comprises a keel.

56. The dynamic interbody device of claim 54, wherein the second member comprises a portion configured to couple to a second dynamic interbody device.

57. The dynamic interbody device of claim 54, wherein the second member comprises a recessed surface, the recessed surface configured to extend over a surface of a second dynamic interbody device when the dynamic interbody device and the second dynamic interbody device are positioned between the first vertebra and second vertebra.

58. The dynamic interbody device of claim 54, wherein the second member comprises at least one tab, wherein the third member comprises at least one groove, and wherein a tab of the second member fits in the groove of the third member to couple the second member to the third member.

59. The dynamic interbody device of claim 54, wherein the first member comprises at least one guide surface, wherein the second member comprises at least one guide surface, and wherein the guide surface of the first member interacts with the guide surface of the second member to couple the first member to the second member.

60. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first member configured to couple to the first vertebra, the first member having an inferior surface configured to contact the first vertebra;

a second member coupled to the first member, wherein the second member is configured to move relative to the first member to allow for coupled axial rotation and lateral bending;

a third member coupled to the second member, the third member having a superior surface configured to contact the second vertebra, and wherein the third member is configured to move relative to the second member to accommodate extension of the first vertebra relative to the second vertebra when the first member and the third member are coupled to the first vertebra and second vertebra;

and wherein the surface area of the inferior surface of the first member is larger than the surface area of the superior surface of the third member.

61. The dynamic interbody device of claim 60, wherein the first member comprises a keel.

62. The dynamic interbody device of claim 60, wherein the second member comprises a portion configured to couple to a second dynamic interbody device.

63. The dynamic interbody device of claim 60, wherein the second member comprises a recessed surface, the recessed surface configured to extend over a surface of a second dynamic interbody device

when the dynamic interbody device and the second dynamic interbody device are positioned between the first vertebra and second vertebra.

64. The dynamic interbody device of claim 60, wherein the second member comprises at least one tab, wherein the third member comprises at least one groove, and wherein a tab of the second member fits in the groove of the third member to couple the second member to the third member.

65. The dynamic interbody device of claim 60, wherein the first member comprises at least one guide surface, wherein the second member comprises at least one guide surface, and wherein the guide surface of the first member interacts with the guide surface of the second member to couple the first member to the second member.

66. A method for stabilizing a first vertebra and a second vertebra of a human spine, comprising:

inserting a dynamic interbody device into a disc space between the first vertebra and the second vertebra from an anterior side of the first vertebra, wherein a first member of the interbody device is configured to move relative to a second member of the dynamic interbody device to allow for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra.

67. The method of claim 66, further comprising coupling at least one posterior stabilization system to the first vertebra and the second vertebra.

68. The method of claim 66, wherein the dynamic interbody device is configured to allow flexion/extension of the first vertebra relative to the second vertebra.

69. The method of claim 66, wherein the first member comprises at least one guide surface that engages a guide surface of the second member to allow for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra.

70. A method for stabilizing a first vertebra and a second vertebra of a human spine, comprising:

inserting a first dynamic interbody device into a disc space on a first side of the first vertebra and the second vertebra from a posterior side of the first vertebra;

inserting a second dynamic interbody device into the disc space on a second side of the first vertebra and the second vertebra from the posterior side of the first vertebra; and

wherein a first member of the first dynamic interbody device is configured to move relative to a second member of the first dynamic interbody device to allow for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra.

71. The method of claim 70, further comprising attaching a dynamic posterior stabilization system to the first vertebra and the second vertebra on the first side of the first vertebra and the second vertebra.

72. The method of claim 70, further comprising attaching a dynamic posterior stabilization system to the first vertebra and the second vertebra on the second side of the first vertebra and the second vertebra.

73. The method of claim 70, wherein the first dynamic interbody device is configured to allow for flexion/extension of the first vertebra relative to the second vertebra.

74. The method of claim 70, wherein the second dynamic interbody device is configured to allow for flexion/extension of the first vertebra relative to the second vertebra.

75. The method of claim 70, further comprising coupling the first dynamic interbody device to the second dynamic interbody device so that a movable portion of the first dynamic interbody device that allows for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra moves in tandem with a movable portion of the second dynamic interbody device that allows for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra.

76. The method of claim 70, wherein inserting the first dynamic interbody device comprises placing a keel of the first dynamic interbody device in a channel formed in the first vertebra.

77. A method for stabilizing a first vertebra and a second vertebra of a human spine, comprising:

inserting a first dynamic interbody device into a disc space on a first side of the first vertebra and the second vertebra from a posterior side of the first vertebra;

inserting a second dynamic interbody device into the disc space on a second side of the first vertebra and the second vertebra from the posterior side of the first vertebra;

coupling the first dynamic interbody device to the second dynamic interbody device; and

wherein a first member of the first dynamic interbody device is configured to couple to the first vertebra, and wherein a second member of the first dynamic interbody device is configured to move relative to the first member of the first dynamic interbody device to allow for coupled axial rotation and lateral bending of the first vertebra relative to the second vertebra.

78. The method of claim 77, further comprising attaching a dynamic posterior stabilization system to the first vertebra and the second vertebra on the first side of the first vertebra and the second vertebra.

79. The method of claim 77, further comprising attaching a dynamic posterior stabilization system to the first vertebra and the second vertebra on the second side of the first vertebra and the second vertebra.

80. The method of claim 77, wherein the first dynamic interbody device is configured to allow for flexion/extension of the first vertebra relative to the second vertebra.

81. The method of claim 77, wherein the second dynamic interbody device is configured to allow for flexion/extension of the first vertebra relative to the second vertebra.

82. The method of claim 77, wherein coupling the first dynamic interbody device to the second dynamic interbody device comprises inserting a portion of the second dynamic interbody device in a portion of the first dynamic interbody device so that a movable portion of the second dynamic interbody device moves in tandem with the second member of the first dynamic interbody device.

83. The method of claim 77, wherein inserting the first dynamic interbody device comprises placing a keel of the first dynamic interbody device in a channel formed in the first vertebra.

84. A method of inserting a first dynamic interbody device and a second dynamic interbody device in a disc space between a first vertebra and a second vertebra, comprising:

placing taps into the first vertebra;

attaching a bridge assembly to the taps and positioning a face of the bridge assembly at a desired position relative to the first vertebra;

attaching a first guide and a second guide to the bridge assembly;

placing an end of a first expandable trial through the first guide and in the disc space between the first vertebra and the second vertebra;

placing an end of a second expandable trial through the second guide and in the disc space between the first vertebra and the second vertebra;

adjusting the separation distance between a movable plate and a base plate of the first expandable trial and adjusting the separation distance between a movable plate and a base plate of the second expandable trial;

attaching the first dynamic interbody device to an inserter and attaching the second dynamic interbody device to an inserter;

removing the first expandable trial from the disc space and first guide;

placing the first dynamic interbody device through the first guide and into the disc space;

removing the second expandable trial from the disc space and second guide;

placing the second dynamic interbody device through the second guide and into the disc space; and

releasing the first dynamic interbody device and the second dynamic interbody device from the inserters.

85. The method of claim 84, further removing the bridge assembly from the taps.

86. The method of claim 84, further comprising coupling at least one dynamic posterior stabilization system to the first vertebra and the second vertebra.

87. A method of inserting a first dynamic interbody device and a second dynamic interbody device in a disc space between a first vertebra and a second vertebra, comprising:

inserting a first expandable trial and a second expandable trial in the disc space between the first vertebra and the second vertebra;

coupling a first guide to the first expandable trial and a second guide to the second expandable trial;

attaching a bridge assembly to the first guide and the second guide;

adjusting the separation distance between a movable plate and a base plate of the first expandable trial and adjusting the separation distance between a movable plate and a base plate of the second expandable trial;

attaching the first dynamic interbody device to an inserter and attaching the second dynamic interbody device to an inserter;

removing the first expandable trial from the disc space and guide;

placing the first dynamic interbody device through the first guide and into the disc space;

removing the second expandable trial from the disc space and second guide;

placing the second dynamic interbody device through the second guide and into the disc space; and

releasing the first dynamic interbody device and the second dynamic interbody device from the

inserters.

88. The method of claim 87, further removing the bridge assembly from the taps.

89. The method of claim 87, further comprising coupling at least one dynamic posterior stabilization system to the first vertebra and the second vertebra.

90. The method of claim 87, further comprising placing a keel guide through a passage in the first guide; forming a channel in the first vertebra for a keel of the first dynamic interbody device.

91. The method of claim 87, further comprising placing a keel guide through a passage in the second guide; forming a channel in the first vertebra for a keel of the second dynamic interbody device.

92. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first member having a plurality of arcuate grooves and ridges;

a second member having a plurality of arcuate grooves and ridges

wherein the grooves and ridges of the first member interact with the grooves and ridges of the second member so that axial rotation of the first vertebra relative to the second vertebra causes lateral bending of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra, and wherein the first member and the second member comprise a dynamic interbody device.

93. The stabilization system of claim 92, further comprising a third member coupled to the second member, wherein the third member allows for flexion of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

94. The stabilization system of claim 92, further comprising a third member coupled to the second member, wherein the third member allows for extension of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

95. The stabilization system of claim 92, wherein the dynamic interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using an anterior approach.

96. The stabilization system of claim 92, wherein the dynamic interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using a posterior approach.

97. The stabilization system of claim 92, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

98. A stabilization system for a first vertebra and a second vertebra of a human spine, comprising:

a first member having a plurality of arcuate grooves and ridges;

a second member having a plurality of arcuate grooves and ridges

wherein the grooves and ridges of the first member interact with the grooves and ridges of the second member so that the lateral bending of the first vertebra relative to the second vertebra causes axial rotation of the first vertebra relative to the second vertebra when the first member and the second member are positioned between the first vertebra and the second vertebra, and wherein the first member and the second member comprise a dynamic interbody device.

99. The stabilization system of claim 98, further comprising a third member coupled to the second member, wherein the third member allows for flexion of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

100. The stabilization system of claim 98, further comprising a third member coupled to the second member, wherein the third member allows for extension of the first vertebra relative to the second vertebra when the dynamic interbody device is positioned between the first vertebra and the second vertebra.

101. The stabilization system of claim 98, wherein the dynamic interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using an anterior approach.

102. The stabilization system of claim 98, wherein the dynamic interbody device is configured to be inserted into a disc space between the first vertebra and the second vertebra using a posterior approach.

103. The stabilization system of claim 98, further comprising at least one dynamic posterior stabilization system configured to couple to the first vertebra and the second vertebra.

104. A bone stabilization system for a human spine, comprising:

a dynamic posterior stabilization system configured to couple to a first vertebra and a second vertebra; and

a dynamic interbody device configured to be positioned between the first vertebra and the second vertebra.

105. A method of stabilizing a human spine, comprising:

installing a dynamic interbody device between a first vertebra and a second vertebra; and

installing at least one dynamic posterior stabilization system to couple the first vertebra to the second vertebra.